



UNITED STATES PATENT AND TRADEMARK OFFICE

W.D.

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/632,082	07/30/2003	Hea-Chun Lee	21C-0056	2199

7590
CANTOR COLBURN LLP
55 Griffin Road South
Bloomfield, CT 06002

06/06/2007

EXAMINER

HAN, JASON

ART UNIT	PAPER NUMBER
----------	--------------

2875

MAIL DATE	DELIVERY MODE
-----------	---------------

06/06/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/632,082

Applicant(s)

LEE ET AL.

Examiner

Jason M. Han

Art Unit

2875

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 April 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-36 is/are pending in the application.
- 4a) Of the above claim(s) 14-28 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13 and 29-36 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>20060929</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to Claims 1-12 and 29-35 have been considered but are moot in view of the new ground(s) of rejection.
2. In response to Applicant's amendment and argument concerning the solder 28b of Ishida electrically connecting the first electrode of one lamp 27, the rejection has been modified to interpret the connector as a single cable as illustrated in Figure 4: (15). Ishida corroborates, "A single cable (not shown) is connected at one end thereof to the return substrate 28 and is also connected at an opposite end thereof to an inverter substrate (not shown), which inverter substrate is connected to high-pressure-side end portions (not shown) of the lamps 27" [Column 2, Lines 15-19]. All subsequent arguments have been addressed as hinging upon this base argument.
3. In response to Applicant's argument, "Neither Ishida nor Mazis, either alone or in combination, teach or suggest... the first electrode extending through the first board to an opposite surface thereof; and... at least two first through-holes formed on the first insulated body, each of the first through-holes receiving the first electrode of each of the lamps" [Page 12], Ishida clearly teaches the first electrode [Figure 1: (29)] extending through the first board [Figure 1: (28)] to an opposite surface thereof. While it is true that Ishida fails to specifically teach the first board having at least two first through-holes formed on the first insulated body, each of the first through-holes receiving the first electrode of each of the lamps, the Examiner relied upon the teaching of Mazis to overcome said deficiency, whereby it would have been obvious to one ordinarily skilled

in the art at the time of invention to modify the lamp assembly of Ishida to incorporate the first board with integral lamp inputs/two through-holes of Mazis in order to simplify manufacturing, as well as facilitate simple and easy installment/replacement of the lamps. Such a bi-pin configuration/connector is commonly known within the art of fluorescent tubes, whereby it is further obvious that one would want to modify the lamp assembly of Ishida to facilitate the use of said bi-pin fluorescent lamps.

4. Lastly, Applicant is further advised that the claim set filed on April 2, 2007 fails to incorporate Claim 36, which was submitted in the amendment filed on April 14, 2006, and which stands rejected.

The following claims have been rejected in light of the specification, but rendered the broadest interpretation as construed by the Examiner and as stated by the Applicant within context of the claim language [MPEP 2111].

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Art Unit: 2875

1. Claims 1 and 35-36 are rejected under 35 U.S.C. 102(e) as being anticipated by Ishida et al. (U.S. Patent 7,057,678).
2. With regards to Claim 1, Ishida discloses a lamp assembly including:
 - At least two lamps [Figure 1: (27)] inherently installed into sockets, whereby the lamps being of a fluorescent bulb type [Column 1, Line 43], which are commonly known in the art and inherently provide a fluorescent layer formed on an inner surface of the lamp body, a discharge gas disposed in the body, first [Figure 1: (29)] and second electrodes for providing the lamp body with discharge voltages;
 - A first lamp holder [Figure 1: (26)] having a pipe-shape, whereby a first end portion of the lamp is inserted into and fastened to the first lamp holder;
 - A first board [Figure 1: (28)] that makes contact with the first lamp holder, whereby the first board has a flat plate shape, and is coupled to first electrodes of the lamps to provide the first electrodes with a first discharge voltage, and further whereby the first electrode extends through the first board to an opposite surface thereof; and
 - A first connector [Column 2, Lines 15-19; e.g., Figure 4: (15)] installed on the first board to electrically connect the first electrodes that are coupled to the first board to an inverter that generates the first discharge voltage.
3. With regards to Claim 35, Ishida discloses the first board [Figure 1: (28)] being disposed such that a major surface of the first board [Figure 1: (28a)] is substantially perpendicular to a longitudinal direction of each of the lamps [Figure 1: (27)].

4. With regards to Claim 36, Ishida discloses the first board [Figure 1: (28)] being intermediate the first lamp holder [Figure 1: (26)] and a terminal end of the first electrode [Figure 1: proximate (28b)].

5. Claims 29-32 are rejected under 35 U.S.C. 102(e) as being anticipated by Ishida et al. (U.S. Patent 7,057,678).

6. With regards to Claim 29, Ishida discloses a lamp assembly including:

- At least two lamps [Figure 1: (27); Column 1, Lines 64-65] inherently installed into sockets, whereby the lamps being of a fluorescent bulb type [Column 1, Line 43], which are commonly known in the art and inherently provide a fluorescent layer formed on an inner surface of the lamp body, a discharge gas disposed in the body, and first [Figure 1: (29)] and second electrodes for providing the lamp body with discharge voltages;
- A first lamp holder [Figure 1: (26)] having a pipe-shape, whereby a first end portion of the lamp is inserted into and fastened to the first lamp holder; and
- A first board [Figure 1: (28)] that makes contact with the first lamp holder and is electrically coupled to first electrodes of the lamps such that the first end portion of the lamp body is spaced apart from the first board, whereby the first board further includes:
 - = An insulated body [Figure 1: (28) – inherent]; and
 - = At least one conductive pattern inherently formed on the insulated body and electrically connected to the first electrode of each of the lamps [Column 2, Lines 6-14]; and

- = At least two through-holes formed on the insulated body and electrically connected to the first electrode of each of the lamps [Column 2, Lines 1-11 – plurality of lamps each having at least one through-hole for the lead wire (29) to go through]; and
 - A connector [Column 2, Lines 15-19; e.g., Figure 4: (15)] installed on the conductive pattern to electrically connect the first electrodes that are coupled to the first board to an inverter that generates the first discharge voltage.
7. With regards to Claim 30, Ishida discloses a terminal coupled to the connector to receive the first discharge voltage from the inverter and provide the first discharge voltage to the connector [Column 2, Line 15].
8. With regards to Claim 31, Ishida discloses the connector [Figure 1: (28b)] electrically connects the conductive pattern of the first board to the inverter through the terminal [Column 2, Lines 15-19].
9. With regards to Claim 32, Ishida discloses the first electrode [Figure 1: (29)] being received in each of the through-holes and the conductive pattern are soldered with each other and electrically connected to each other [Column 2, Line 10].

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 2-5 and 7, 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ishida et al. (U.S. Patent 7,057,678) as applied to Claim 1 above, and further in view of Mazis (U.S. Patent 4,504,891).

11. With regards to Claim 2, Ishida discloses the claimed invention as cited above. In addition, Ishida inherently teaches the first board including a first insulated body and at least one first conductive pattern electrically connected to the first electrode of each of the lamps [Column 2, Lines 6-14].

Ishida does not specifically teach the first board having at least two first through-holes formed on the first insulated body, whereby each of the first through-holes receives the first electrode of each of the lamps.

Mazis teaches a first board including:

- A first insulated body [Figure 3: (44); inherent];
- At least one first conductive pattern [Figure 3: (45)] electrically connected to the first electrode of a plurality of lamps; and
- At least two first through-holes [Figure 3: (46)] formed on the first insulated body, whereby each of the first through-holes receives the first electrode of each of the lamps.

It would have been obvious to one ordinarily skilled in the art at the time of invention to modify the lamp assembly of Ishida to incorporate the first board with integral lamp inputs/two through-holes of Mazis in order to simplify manufacturing, as well as facilitate simple and easy installment/replacement of the lamps. Such a bi-pin configuration/connector is commonly known within the art of fluorescent tubes, whereby

it is further obvious that one would want to modify the lamp assembly of Ishida to facilitate the use of said bi-pin fluorescent lamps.

12. With regards to Claim 3, Ishida in view of Mazis discloses the claimed invention as cited above. In addition, Ishida teaches a first terminal [Column 2, Lines 15], coupled to receive the first discharge voltage from the inverter and provide the first discharge voltage to the first connector [Column 2, Lines 15-19].

13. With regards to Claim 4, Ishida in view of Mazis discloses the claimed invention as cited above. In addition, Ishida teaches the first connector [Figure 1: (28b)] being installed on the first conductive pattern of the first board [Column 2, Lines 6-14], and electrically connecting the first conductive pattern of the first board to the inverter through the first terminal [Column 2, Line 15].

14. With regards to Claim 5, Ishida in view of Mazis discloses the claimed invention as cited above. In addition, Ishida teaches teach the first electrode being received in each of the first through-holes and the first conductive pattern being soldered [Figure 1: (28b)] with each other and electrically connected to each other.

15. With regards to Claim 7, Ishida in view of Mazis discloses the claimed invention as cited above. In addition, Ishida obviously teaches a second board, coupled to the second electrode, for providing the second electrode with the second discharge voltage on the opposite side of Figure 1. Such a configuration is commonly known within the art, as demonstrated in the prior art cited (i.e., Oyokota – JP2002132193A) in the previous Office Actions. Lastly, it has been held that mere duplication of the essential

working parts of a device involves only routine skill in the art. *St. Regis Paper Co. v. Bemis Co.*, 193 USPQ 8.

16. With regards to Claim 13, Ishida in view of Mazis discloses the claimed invention as cited above. In addition, Mazis teaches the number of lamps being four [Figure 2]. Said number of lamps not being the patentable feature of the device, whereby it would be obvious to one ordinarily skilled in the art to modify the number of lamps to a specific number to correspond with the size of the LCD.

17. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ishida et al. (U.S. Patent 7,057,678) as applied to Claim 1 above, and further in view of Saito et al. (U.S. Patent 6,441,874).

Ishida discloses the claimed invention as cited above, but does not specifically teach the first lamp holder comprising of rubber.

Saito teaches a lamp holder [Figures 1-7: (9)] having a pipe-shape and comprising of rubber [Column 5, Lines 12-16].

It would have been obvious to one ordinarily skilled in the art at the time of invention to modify the lamp assembly of Ishida to incorporate the rubber pipe-shaped lamp holder of Saito to provide greater security to the fluorescent lamps, as well as prevent luminance drop via suppressing heat radiation at the electrode portions of the fluorescent lamps so as to secure sufficient amount of mercuric vapor in the whole of said lamps [see Saito: Abstract].

18. Claims 8-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ishida et al. (U.S. Patent 7,057,678) as applied to Claim 7 above, and further in view of Mazis (U.S. Patent 4,504,891).

19. With regards to Claim 8, Ishida discloses the claimed invention as cited above. In addition, Ishida obviously teaches a second board including a second insulated body and at least one second conductive pattern electrically connected to the second electrode of each of the lamps, whereby it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art. *St. Regis Paper Co. v. Bemis Co.*, 193 USPQ 8.

Ishida does not specifically teach the second board having at least two second through-holes formed on the second insulated body, whereby each of the second through-holes receives the second electrode of each of the lamps.

Mazis teaches the second board [Column 3, Lines 2-7] including:

- A second insulated body [Figure 3: (44); inherent]
- At least one second conductive pattern [Figure 3: (45)] electrically connected to the second electrode of each of the lamps; and
- At least two second through-holes [Figure 3: (46)] formed on the second insulated body, whereby each of the second through-holes receives the second electrode of each of the lamps.

It would have been obvious to one ordinarily skilled in the art at the time of invention to modify the lamp assembly of Ishida to incorporate the second board with integral lamp inputs/two through-holes of Mazis in order to simplify manufacturing; as

well as facilitate simple and easy installment/replacement of the lamps. Such a bi-pin configuration/connector is commonly known within the art of fluorescent tubes, whereby it is further obvious that one would want to modify the lamp assembly of Ishida to facilitate the use of said bi-pin fluorescent lamps.

20. With regards to Claim 9, Ishida in view of Mazis discloses the claimed invention as cited above. In addition, Ishida teaches a second connector [Figure 1: (28b)] installed on the second conductive pattern; and a second terminal [Column 2, Line 15], coupled to the second connector to receive the second discharge voltage from the inverter and provide the second discharge voltage to the second connector.

21. With regards to Claim 10, Ishida in view of Mazis discloses the claimed invention as cited above. In addition, Ishida teaches the second connector [Figure 1: (28b)] electrically connecting the second conductive pattern of the second board to the inverter through the second terminal [Column 2, Line 15].

22. With regards to Claim 11, Ishida in view of Mazis discloses the claimed invention as cited above. In addition, Ishida teaches teach the second electrode being received in each of the second through-holes and the second conductive pattern being soldered [Figure 1: (28b)] with each other and electrically connected to each other.

23. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ishida et al. (U.S. Patent 7,057,678) as applied to Claim 7 above, and further in view of Saito et al. (U.S. Patent 6,441,874).

Ishida in view of Mazis discloses the claimed invention as cited above. In addition, Ishida teaches a second lamp holder [Figure 1: (26)] having a pipe-shape,

whereby a second end portion of the lamp is inserted into the pipe-shape to be fastened to the second lamp holder.

However, neither Ishida nor Mazis specifically teaches the second lamp holder comprising of rubber.

Saito teaches a lamp holder [Figures 1-7: (9)] having a pipe-shape and comprising of rubber [Column 5, Lines 12-16].

It would have been obvious to one ordinarily skilled in the art at the time of invention to modify the lamp assembly of Ishida in view of Mazis to incorporate the rubber pipe-shaped lamp holder of Saito to provide greater security to the fluorescent lamps, as well as prevent luminance drop via suppressing heat radiation at the electrode portions of the fluorescent lamps so as to secure sufficient amount of mercuric vapor in the whole of said lamps [see Saito: Abstract].

24. Lastly, it should further be mentioned that Claims 7-12 are a mere duplication of the opposite side of the lamp assembly, whereby it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art. *St. Regis Paper Co. v. Bemis Co.*, 193 USPQ 8.

25. Claims 33-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ishida et al. (U.S. Patent 7,057,678) as applied to Claim 29 above, and further in view of Saito et al. (U.S. Patent 6,441,874).

26. With regards to Claim 33, Ishida discloses the claimed invention as cited above, but does not specifically teach the first lamp holder comprising of rubber.

Saito teaches a lamp holder [Figures 1-7: (9)] having a pipe-shape and comprising of rubber [Column 5, Lines 12-16].

It would have been obvious to one ordinarily skilled in the art at the time of invention to modify the lamp assembly of Ishida to incorporate the rubber pipe-shaped lamp holder of Saito to provide greater security to the fluorescent lamps, as well as prevent luminance drop via suppressing heat radiation at the electrode portions of the fluorescent lamps so as to secure sufficient amount of mercuric vapor in the whole of said lamps [see Saito: Abstract].

27. With regards to Claim 34, Ishida in view of Saito discloses the claimed invention as cited above. In addition, Ishida obviously teaches a second board coupled to the second electrode and a second lamp holder, whereby the second board and the second lamp holder would have identical shape with the first board and the first lamp holder, respectively. Such a configuration is commonly known within the art, as demonstrated in the prior art cited (i.e., Oyokota – JP2002132193A) in the previous Office Actions. Lastly, it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art. *St. Regis Paper Co. v. Bemis Co.*, 193 USPQ 8.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason M. Han whose telephone number is (571) 272-2207. The examiner can normally be reached on 8:00am-5:00pm.

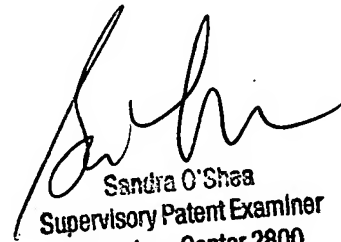
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sandra O'Shea can be reached on (571) 272-2378. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2875

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Jason M Han
Examiner
Art Unit 2875

JMH (6/2/2007)



Sandra O'Shea
Supervisory Patent Examiner
Technology Center 2800